Abstract

A mechanism is introduced by which programmable CDR (Clock and Data Recovery) circuits can be made to function in a fully transparent OEO wavelength switch. In a scanning mode, the CDR is programmed to each of its frequencies and checked for phase lock confirmation to the data signal mode. Once phase lock is confirmed at one of the specific CDR frequencies, then it must be verified that the CDR has locked to the main harmonic of the data signal and not to a sub-harmonic. If the CDR is locked to a sub-harmonic, it must continue to be scanned through its frequencies until it attains correct lock with the incoming data signal.